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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,683	10/17/2003	Stephen John Howell	132281	9340

7590

08/03/2005

John S. Beulick
Armstrong Teasdale LLP
Suite 2600
One Metropolitan Square
St. Louis, MO 63102

EXAMINER

CASAREGOLA, LOUIS J

ART UNIT

PAPER NUMBER

3746

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/687,683

Applicant(s)

HOWELL ET AL.

Examiner

Louis J. Casaregola

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11, 13-19 is/are rejected.
- 7) ☒ Claim(s) 5, 12, 15-18, 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Objections To Claims

Claims 15-18 are objected to under 37CFR 1.75(a) for the following reasons:

In claim 15, lines 2-3, "said combustor first primary dilution openings" and "said combustor second primary dilution openings" lack antecedent basis.

In claim 16, line 3, it appears that the term "openings" has been inadvertently omitted between "dilution" and "and".

Claims 17 and 18 depend from claim 16 and are consequently subject to the same objection as their parent claim.

Claim Rejections - 35 USC 112

Claim 18 is rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

Claims 18 recites "each said combustor first primary dilution opening is aligned downstream from, and substantially axially along a centerline of, each said air swirler". It is not clear how this limitation is intended to correspond to the preferred embodiment of the invention. As best shown by Figure 2, swirler axis 76 is essentially perpendicular to the axes of dilution openings 120 and 122, hence, it is not seen how the dilution

openings can be construed as aligned substantially axially along a centerline of the swirler in the manner claimed.

Claim Rejections - 35 USC 102

Claims 1, 6, 7, 13 and 14 are rejected under 35 USC 102(b) as being anticipated by either Scott or Snyder.

All features in the present claims are included in combustion systems of the type shown in the cited prior art. See Figure 1 of Scott; note that elements 34 and 40 correspond to the claimed inner and outer liners, and elements 28 and 26 correspond to the claimed inner and outer supports. Note also that apertures 42 and 48 respectively constitute impingement and dilution openings. With regard to claim 13, attention is further called to injector 14 located in an opening in dome 18.

See also Figures 1 and 3 of Snyder; note that elements 60 and 62 correspond to the claimed inner liner, elements 46 and 48 correspond to the claim outer liner, elements 64 and 66 correspond to the claimed inner support, and elements 44 and 50 correspond to the claimed outer support. Note also that apertures 70 constitute impingement openings, and apertures 116 and 118 constitute dilution openings. With regard to claim 13, attention is further called to injector 18 located in openings in elements 78 and 80, which correspond to the claimed dome.

Claims 2-4, 8-11, 15-17 and 19 are rejected under 35 USC 102(b) as being anticipated by Snyder.

With regard to claims 2-3, 8-10 and 15-17, note that Snyder's dilution opening arrangement includes rows of relatively larger openings 116 located between relatively smaller openings 118 (see Fig. 3).

With respect to claims 4, 11 and 19, attention is further called to Snyder's aperatures 72, which correspond to the claimed film cooling holes.

Allowable Subject Matter


Claims 5, 12 and 20 contain allowable subject matter but are objected to as depending on rejected parent claims. If rewritten in independent form, these claims will be allowed.

Additional References

Pacheco-Tougas et al, Howell et al, and McCaffrey et al are cited as disclosing further pertinent examples of combustor air supply systems.

Art Unit: 3746

L. J. Casaregola
571-272-4826 (M-F; 7:30-4:00)
571-273-8300 FAX
August 1, 2005


LOUIS J. CASAREGOLA
PRIMARY EXAMINER

If repeated attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Information regarding the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, and status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).